WHAT IS CLAIMED IS:

1. A sound masking system for controlling the ambient noise level in a physical environment, said sound masking system comprising:

(a) a communication network spanning at least a portion of said physical environment;

(b) a plurality of sound masking units, some of said sound masking units including a communication interface for coupling said sound masking units to said communication network for receiving signals over said communication network;

(c) a control unit, said control unit having a communication interface for coupling said control unit to said communication network for transmitting signals over said communication network to said sound masking units, and said signals including control signals for selectively controlling the operation of said sound masking units and one or more sound masking signals for producing a sound masking output at one or more of said selected sound masking units.

2. The sound masking system as claimed in claim 1, wherein said communication interface comprises an address component for recognizing signals intended for the sound masking unit associated with said address component.

3. The sound masking system as claimed in claim 2, wherein said control unit includes an address generator for assigning addresses to said sound masking units.

4. The sound masking system as claimed in claim 3, wherein said address generator comprises a component for generating a logical address for each of said sound masking units, and said logical address being derived from an identifier associated with each of said sound masking units.

5. The sound masking system as claimed in claim 1, further including a computer, and said control unit having a communication interface for receiving adjustment signals from said computer, and said control unit including a component for converting said adjustment signals into control signals for controlling characteristics of said sound masking output.

6. The sound masking system as claimed in claim 5, wherein said sound masking units include an equalizer for adjusting spectral characteristics of said sound masking output in response to a spectral control signal.

7. The sound masking system as claimed in claim 6, wherein said computer includes a component for receiving sound level readings for the physical environment and a component for generating an equalizer adjustment signal derived from said sound level readings, and said control unit being responsive to said equalizer adjustment signal for generating said spectral control signal.

8. The sound masking system as claimed in claim 7, wherein said component for receiving sound level readings comprises a microphone.

9. The sound masking system as claimed in claim 1, wherein said control unit comprises a computer, and said computer including a component for receiving sound level readings for the physical environment and a component for generating a spectrum adjustment command in response to said sound level readings, and said computer transmitting said spectrum adjustment command to one or more of said sound masking units for adjusting the spectrum of said sound masking output.

10. The sound masking system as claimed in claim 9, wherein said computer includes a component for receiving sound level readings for the physical environment and a component for generating a volume level adjustment signal

and said control unit being responsive to said volume level adjustment signal for adjusting the volume of said sound masking output.

11. The sound masking system as claimed in claim 1, further including a sound masking module for generating one or more of said sound masking signals for transmission to selected ones of said sound masking units.

12. The sound masking system as claimed in claim 1, further including a paging component, said paging component comprising a plurality of input ports for receiving a plurality of paging signals, and a selector coupled to said input ports for selecting one or more of said paging signals and a routing component for routing said selected paging signals over said communication network and one or more of said sound masking units inputting one of said selected paging signals for announcement in response to a control command received from said control unit.

13. The sound masking system as claimed in claim 12, wherein said control command is transmitted to a plurality of sound masking units to define a paging zone, and said paging zone defining a destination for one of said selected paging signals.

14. The sound masking system as claimed in claim 2, further including a paging component, said paging component comprising a plurality of input ports for receiving a plurality of paging signals, and a selector coupled to said input ports for selecting one or more of said paging signals and a routing component for routing said selected paging signals over said communication network for selection by one or more of said sound masking units for announcement.

15. A sound masking system for shaping the ambient noise level in a physical environment, the sound masking system comprises:

(a) a communication network spanning at least a portion of said physical environment;

(b) a plurality of sound masking units, some of said sound masking units including a communication interface for coupling said sound masking units to said communication network, a programmable controller for controlling operation of said sound masking unit, and said programmable controller being coupled to said communication network for receiving signals from said communication network;

(c) a control unit, said control unit having a communication interface for coupling said control unit to said communication network for transmitting signals over said communication network to said sound masking units, and said signals including control signals and at least one audio signal, said audio signal comprising a sound masking signal, a paging signal or the sound masking signal mixed with the paging signal;

(d) wherein said sound masking unit includes an equalizer for receiving said audio signal and generating an audio output signal with a predetermined contour, and an output amplifier for amplifying said audio output signal, and said programmable controller including a component for altering the contour of said audio output signal in response to a control signal from said control unit.

16. The sound masking system as claimed in claim 15, wherein said equalizer includes a component for generating said audio output signal with programmable spectral characteristics in response to a control signal from said programmable controller.

17. The sound masking system as claimed in claim 16, wherein said control unit comprises a computer, and said computer including a component for receiving sound level readings for the physical environment and a component for generating a spectrum adjustment signal in response to said sound level readings, and said computer transmitting said spectrum adjustment signal to one

or more of said sound masking units for adjusting the spectrum of said audio output signal.

18. The sound masking system as claimed in claim 17, wherein said communication interface comprises an address component for recognizing control signals intended for the sound masking unit associated with said address component, and said programmable controller including a component for decoding said control signals and applying one or more of said decoded signals for controlling operation of said sound masking unit.

19. A networked sound masking system comprising:

(a) a communication network spanning at least a portion of said physical environment;

(b) a plurality of sound masking units, at least some of said sound masking units including a communication interface for coupling to said communication network and a speaker, said communication interface having an address component for recognizing control signals and an audio signal for announcement at said speaker associated with said address component, said audio signal comprising a sound masking signal, or a paging signal mixed with said sound masking signal;

(c) a control unit having a communication interface for coupling said control unit to said communication network for transmitting signals over said communication network to said sound masking units associated with said address component, and said signals including one or more of said audio signals and control signals for selectively controlling the operation of said sound masking units;

(d) said control unit including an address generator for assigning addresses to said sound masking units.

20. The networked sound masking system as claimed in claim 19, wherein said address generator comprises a component for generating a logical address

for each of said sound masking units based on a positional reference of the component in the network.

21. The networked sound masking system as claimed in claim 20, further including a sound masking signal component, said sound masking signal component comprising a plurality of input ports for receiving a plurality of sound masking signals, and a selector coupled to said input ports for selecting one or more of said sound masking signals and inserting the selected sound masking signals into one or more communication channels for transmission as one or more of said audio signals over said communication network to said sound masking units, and said sound masking units selecting one of said audio signals according to a control command received from said control unit.

22. The networked paging system as claimed in claim 21, wherein said control unit includes a component for defining a zone comprising a number of sound masking units, and said sound masking units belonging to said zone receiving a control message from said control unit for selecting one of said audio signals in the communication channels transmitted over said communication network.